Pump Station S-500
Summary of Hydraulic Design Data

Revisions:
- 17 July 2000 – Original submission. Received SFWMD pump mix concurrence.

XY Coordinate[1] – 836440 658610
Location: US-27/ I-75 Interchange

Purpose/Operational Intent: Water Supply Deliveries, Non-Flood Control
- Provides lift for conveyance of WCA-2B diverted water to the NESRS and CLBSA (when on-line).
- Pumps are designed to operate in conjunction with NNR and L-35B gate discharges from WCA-2B.

Design Condition: Non-Flood Control 1500 cfs

Pump Station Capacity Criteria:
- Overflow from WCA-2B based on Natural System Model (NSM) levels plus 1.0 foot.
- Maximum pump capacity was based on unrestricted 100% delivery

Number of Pumps 4
Pump Mix Type and Size

Diesel	2 @ 500 cfs
Diesel	2 @ 250 cfs

Mix Criteria:
- The pump station will have 4 bays; the two 250-cfs pumps are identical to the 250-cfs pump at S-503.
- The pump sizes match combinations of WCA-2B gated structures discharge capacities.
- The pump mix allows for intermediate flow values while having duplicate pumps throughout the system for operation and maintenance considerations. Low delivery rates are made with short pumping times.

Control: Remote by SCADA or Local

Design Heads[2]

Normal (1.5 HW to 8.0 TW)	6.50	feet
Maximum (0.5 HW to 9.0 TW)	8.50	feet

Intake Water Surface Elevations

Maximum Non-Pumping Pumping	7.00	ft-NGVD
Maximum Pumping	7.00	ft-NGVD
Start Pumping	4.50	ft-NGVD
Normal Drawdown	1.5 to 2.5	ft-NGVD
Minimum Drawdown Pumping	0.50	ft-NGVD
Minimum Non-Pumping	0.50	ft-NGVD
Channel Invert	-10.0	ft-NGVD

Discharge Water Surface Elevations

Maximum Non-Pumping	9.00	ft-NGVD
Maximum Pumping	9.00	ft-NGVD
Normal Pumping	8.00	ft-NGVD
Minimum Pumping	5.00	ft-NGVD
Minimum Non-Pumping	5.00	ft-NGVD
Channel Invert	-8.00	ft-NGVD

Notes:
- [1] XY coordinates system used is NAD 83, Florida east, state plane.
- [2] Total lift provided by pump must include the elevation required for discharge pipe routing over crossing canal C-502A. This additional lifting requirement is NOT included in elevations presented here.
- All elevations are in feet, NGVD (National Geodetic Vertical Datum of 1929)
- Diesel generator is required for control station operations in cases of power outage.

Data Compiled from:
- NSM, SFWMM, Selected Plan features, and EN-HH design